

**In the Specification**

**Please amend the paragraph beginning on page 8, line 17 as follows:**

Figure 1A. Stereo view of the overlay of engrailed HTH region ( $\alpha 2$ - $\alpha 3$ ; 1ENH; in green) and one EF-Hand of parvalbumin (5PAL; in blue), to illustrate that the helical axes are colinear. The C-terminal  $\alpha 3$  is the homeodomain DNA-recognition helix. Engrailed is shown from the lower center, directly up and then to the right; parvalbumin is shown from the lower center to the lower left, then upwards and finally to the right; and the Ca(II) ion is shown as a solid magenta sphere ~~circle~~ having lines extended therefrom representing its ligands.

**Please amend the paragraph beginning on page 8, line 22 as follows:**

Figure 1B. A side by side stereo view of double strand DNA (~~above left~~; in blue) and a DNA and metal binding synthetic peptide (right; metal is shown as a blue sphere and synthetic peptide as a ribbon; ~~(below~~ in magenta and green).

**Please amend the paragraph beginning on page 8, line 24 as follows:**

Figure 1C. Two views of the overlay of engrailed (1ENH) helix-turn-helix (HTH) region ( $\alpha 2$ - $\alpha 2$ ) and one EF-hand of calmodulin (1OSA; third Ca-site) thus illustrating that the helices occupy the same space. The C-terminal  $\alpha 3$  is the homeodomain recognition helix which binds in the DNA major groove.  $\alpha 1$ ,  $\alpha 2$  and  $\alpha 3$  of Engrailed (1ENH; in blue) are shown; and calmodulin (1OSA; third Ca-site; in purple) is shown binding a metal. The Ca(II) ion is shown as a solid red sphere.

---

**Please amend the paragraph at page 48, line 1 as follows:**

Metal binding and solution structure. The binding affinity of P3 for Eu(III) was characterized by isothermal titration microcalorimetry. The dissociation constant for EuP3 was found to be  $10 \pm 4 \mu\text{M}$ , from which the amount of bound and free Eu(III) in solution was calculated (Table 1). Though there is only one binding site per peptide, the binding behavior was not a simple two species process. EuP3 also dimerizes at higher concentrations  $K_{\text{dim}} \geq 80 \mu\text{M}$ . However, the second metal site in the dimer has low affinity ( $K_{\text{d}} > 1 \text{ mM}$ ), so free Eu(III), EuP3 monomer, and a singly occupied dimer ( $\text{EuP}_3\text{P}_3$ ), are the species present at concentrations below  $100 \mu\text{M}$ .